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09/740,699	12/18/2000	Stephen P. Darbin	24012-30	5026

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EXAMINER

MENBERU, BENIYAM

ART UNIT PAPER NUMBER

2626

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/740,699	DARBIN ET AL.	
	Examiner	Art Unit	
	Beniyam Menberu	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/9/02, 8/6/01</u> → <u>6/4/2001</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 9, line 7, the word "deuplex" should be "duplex".

On page 10, line 10, the word "deuplex" should be "duplex".

Appropriate correction is required.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: In figure 3, reference characters 320, 322, 330, 332, 333, and 319 are not mentioned in the specification. Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5350664 to Simons.

Regarding claim 1, Simons discloses a method a method for creating a single digital image file from multiple scans, the method comprising. scanning a first side of a medium using a single imaging station having only one sensor unit to create first digital data corresponding to a source image on the medium (column 17, lines 49-59; column 20, lines 24-32; Simons implies that a single sensor is used for scanning since he teaches that the medium is inverted for the second reflection scan and later teaches that two sensors can be used to avoid the inverting of the medium. Thus single sensor is used if inverting of the medium is performed (column 17, lines 62-64, lines 65-67).); scanning an opposite side of the medium using the single imaging station to create second digital data corresponding to the source image (column 17, lines 62-65); and

Art Unit: 2626

combining the first and second digital data to create a single digital image which represents the source image (column 14, lines 67-68; column 15, lines 1-7).

Regarding claim 3, Simons teaches all the limitations of claim 1. Further Edgar discloses the method, wherein the imaging station comprises a pair of radiation sources configured to apply radiation to opposite sides of the medium (Simons teaches that when the film is not inverted for reflection scanning, two reflection scanners are placed on the two sides of the film implying that there is a radiation source for each reflection scanner located on each side (column 17, lines 65-67)).

Regarding claim 4, Simons teaches all the limitations of claim 1. Further Simons discloses the method as recited in claim 1, further comprising: flipping the medium between the scanning steps (column 17, lines 62-65).

Regarding claim 7, Simons teaches all the limitations of claim 1. Further Simons discloses the method as recited in claim 1, wherein the medium comprises developing film (column 30, lines 45-56), the sensor unit is configured to record radiation reflected from the film and radiation transmitted through the film (column 17, lines 57-62), and the imaging station comprises a back source configured to apply radiation to one side of the developing film and a front source configured to apply radiation to an opposite side of the developing film (Simons teaches that when the film is not inverted for reflection scanning, two reflection scanners are placed on the two sides of the film implying that there is a radiation source for each reflection scanner located on each side (column 17, lines 65-67)).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5465155 to Edgar.

Regarding claim 2, Simons teaches all the limitations of claim 1. Further Simons discloses a method as recited in claim 1, wherein the medium comprises developing film (column 30, lines 45-56). However Simons does not disclose method as recited in claim 1 wherein the steps are conducted for a first film development time to create the single digital image, the steps are repeated for a second film development time to create a second digital image representing the same source image, and the single digital image and the second digital image are combined to form an enhanced digital image representing the source image.

Edgar discloses method wherein the steps are conducted for a first film development time to create the single digital image (Figure 5b, reference 550, 560, 570, 580, 590; column 6, lines 62-67; column 7 lines 1-2), the steps are repeated for a second film development time to create a second digital image representing the same source image (column 7 lines 2-5), and the single digital

Art Unit: 2626

image and the second digital image are combined to form an enhanced digital image representing the source image (column 7, lines 8-13, lines 25-29).

Simons and Edgar are combinable because they are in the same problem area of film image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of film imaging taught by Edgar with the film imaging system of Simons to implement an accurate film imaging system.

The motivation to combine the reference is clear because Edgar teaches that defects can be eliminated by this method (column 7, lines 13-19).

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5436688 to Tanaka.

Regarding claim 5, Simons teaches all the limitations of claim 4. However Simons does not disclose the method as recited in claim 4, wherein the flipping is conducted automatically.

Tanaka discloses an automatic photofinishing apparatus wherein the flipping of a film is conducted automatically (column 2, lines 50-54; As shown in Figure 7, the film is twisted 180 degrees to cause the film to flip to the other side (column 5, lines 51-67).).

Simons and Tanaka are combinable because they are in the same problem area of film image processing.

Art Unit: 2626

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine automatic film flipping taught by Tanaka with the film imaging system of Simons to implement automatic film imaging system.

The motivation to combine the reference is clear because automatic film system can save time in processing time.

Regarding claim 6, Simons teaches all the limitations of claim 4. Further Tanaka discloses the method as recited in claim 4, wherein the flipping is conducted by introducing a twist into the medium (Tanaka: column 5, lines 57-67).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5574577 to Wally, Jr. et al.

Regarding claim 8, Simons teaches all the limitations of claim 1. However Simons does not disclose the method as recited in claim 1, further comprising: aligning the first and second digital data.

Wally, Jr et al disclose a method of aligning the first and second digital data (column 10, lines 55-67; column 12, lines 35-40).

Simons and Wally, Jr. et al are combinable because they are in the same problem area of film image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the digital alignment method of Wally, Jr. et al with the film imaging system of Simons to implement an accurate imaging system

Art Unit: 2626

The motivation to combine the reference is clear because alignment is necessary for registering multiple images together as taught by Wally, Jr. et al (column 12, lines 35-40).

8. Claims 9, 10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5726773 to Mehlo et al.

Regarding claim 9, Simons disclose the method for creating a digital image file from a developing film, comprising:
applying developer to film to cause the film to begin to develop (column 26, lines 24-30);
during the first time period, applying radiation to a front frame of the developing film (column 17, lines 54-57);
sensing front radiation reflected from the front frame during the first time period using the single sensor unit (column 17, lines 57-59; Simons implies that a single sensor is used for scanning since he teaches that the medium is inverted for the second reflection scan and later teaches that two sensors can be used to avoid the inverting of the medium. Thus single sensor is used if inverting of the medium is performed (column 17, lines 62-64, lines 65-67));
creating front digital data from the sensed front reflected radiation (column 20, lines 24-32);
during the second time period, applying radiation to the back frame (column 17, lines 62-65);
sensing back radiation reflected from the frame during the second time period

Art Unit: 2626

using the single sensor unit (column 17, lines 62-65);
creating back digital data from the sensed back reflected radiation (column 20, lines 24-32) ;
transmitting radiation through the frame (column 17, lines 59-62);
sensing radiation transmitted through the film frame using the single sensor unit (column 17, lines 59-62);
creating transmitted digital data from the sensed transmitted radiation (column 20, lines 24-32); and
combining the front digital data, the back digital data, and the transmitted digital data to form a digital image file which represents the film frame (column 14, lines 67-68; column 15, lines 1-7). However Simons does not disclose the method of moving the film relative to a scanning station during a first time period and a second time period.

Mehlo et al disclose a method of moving the film relative to a scanning station (column 3, lines 22-26; column 4, lines 50-55).

Simons and Mehlo et al are combinable because they are in the same problem area of film image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the film movement method of Mehlo et al with the film imaging system of Simons to implement a film imaging system.

The motivation to combine the reference is clear because in order to scan a film completely the film has to be moved until all the sensors capture the complete image.

Art Unit: 2626

Regarding claim 10, Simons in view of Mehlo et al teach all the limitations of claim 9. Further Simons disclose the method as recited in claim 9, further comprising: flipping the film (Simons: column 17, lines 62-65).

Regarding claim 14, Simons in view of Mehlo et al teach all the limitations of claim 9. Further Mehlo et al disclose the method as recited in claim 9, wherein the moving steps are conducted by moving the single sensor unit (Mehlo et al: column 3, lines 22-26; Since the image is stationary, the scanner is responsible for moving in order to scan the image.).

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5726773 to Mehlo et al further in view of U.S. Patent 5436688 to Tanaka.

Regarding claim 11, Simons in view of Mehlo teach all the limitations of claim 10. However Simons in view of Mehlo does not disclose the method as recited in claim 10, wherein the film is flipped by introducing a twist in the film and moving the twisted film.

Tanaka discloses an automatic photofinishing apparatus wherein the flipping of a film is conducted automatically using a twisting motion (column 2, lines 50-54; As shown in Figure 7, the film is twisted 180 degrees to cause the film to flip to the other side (column 5, lines 51-67) and is transported (Figure 6, see arrows on reference 21).).

Simons, Mehlo et al, and Tanaka are combinable because they are in the same problem area of film image processing.

Art Unit: 2626

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the film flipping and transporting method taught by Tanaka with the film imaging system of Simons in view of Mehlo et al to implement automatic film imaging system.

The motivation to combine the reference is clear because in order to scan the opposite side the film has to be flipped.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5726773 to Mehlo et al in view of U.S. Patent No. 6002430 to McCall et al.

Regarding claim 12, Simons in view of Mehlo et al teach all the limitations of claim 10. However Simons in view of Mehlo et al does not disclose the method as recited in claim 10, wherein the film is flipped manually.

McCall et al disclose a method wherein the film is flipped manually (McCall teaches that manual flipping of the film is an alternative to automatic flipping of a film (column 5, lines 65-67; column 6, lines 1-9)).

Simons, Mehlo et al, and McCall et al are combinable because they are in the same problem area of film image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the manual film flipping method taught by McCall et al with the film imaging system of Simons in view of Mehlo et al to implement a manual film imaging system.

Art Unit: 2626

The motivation to combine the reference is clear because manual flipping method provides an alternative in case the automatic system is not available or working.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5726773 to Mehlo et al further in view of U.S. Patent No. 5465155 to Edgar.

Regarding claim 13, Simons in view of Mehlo et al teach all the limitations of claim 9. However Simons in view of Mehlo et al does not disclose the method as recited in claim 9, wherein the steps are conducted for a first film development time to create the digital image file, the steps are repeated for a second film development time to create a second digital image file, and the digital image file and the second digital image file are combined to form an enhanced digital image representing the frame.

Edgar discloses the method, wherein the steps are conducted for a first film development time to create the digital image file (Figure 5b, reference 550, 560, 570, 580, 590; column 6, lines 62-67; column 7 lines 1-2), the steps are repeated for a second film development time to create a second digital image file (column 7 lines 2-5), and the digital image file and the second digital image file are combined to form an enhanced digital image representing the frame (column 7, lines 8-13, lines 25-29).

Simons, Mehlo et al, and Edgar are combinable because they are in the same problem area of film image processing.

Art Unit: 2626

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of film imaging taught by Edgar with the film imaging system of Simons in view of Mehlo et al to implement an accurate film imaging system.

The motivation to combine the reference is clear because Edgar teaches that defects can be eliminated by this method (column 7, lines 13-19).

12. Claims 15, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5436688 to Tanaka.

Regarding claim 15, Simons discloses a digital film development system, comprising:

A source configured to apply radiation to a developing film strip (column 17, lines 50-54);

a single sensor unit configured to sense radiation from the developing film strip (column 17, lines 49-59; column 20, lines 24-32; Simons implies that a single sensor is used for scanning since he teaches that the medium is inverted for the second reflection scan and later teaches that two sensors can be used to avoid the inverting of the medium. Thus single sensor is used if inverting of the medium is performed (column 17, lines 62-64, lines 65-67)). Simons discloses a film developing system wherein a film passes in front of the single sensor unit multiple times such that opposite sides of the developing film strip face the sensor during each pass (column 17, lines 55-65). However Simons does not disclose a transportation system adapted to pass the developing film strip.

Art Unit: 2626

Tanaka discloses a film transportation system adapted to pass the developing film strip (Figure 1, reference 21, 10; column 3, lines 58-67).

Simons and Tanaka are combinable because they are in the same problem area of film image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the film transportation method of Tanaka with the film imaging system of Simons to implement an efficient film imaging system.

The motivation to combine the reference is clear because in order to scan both sides of a film, the film has to be transported several times to the scanner.

Regarding claim 16, Simons in view of Tanaka teach all the limitations of claim 15. Further Simons discloses the system as recited in claim 15, wherein the sensor unit is configured to provide multiple digital data files for each frame on the film, each digital data file for the frame being created during a separate pass (Simons: column 20, lines 24-32; column 17, lines 49-51).

Regarding claim 17, Simons in view of Tanaka teach all the limitations of claim 16. Further Simons discloses the system as recited in claim 16, further comprising: an image processor configured to combine the digital data for each frame (Simons: column 14, lines 67-68; column 15, lines 1-7; column 20, lines 34-38).

Regarding claim 19, Simons in view of Tanaka teach all the limitations of claim 15. Further Simons discloses the system as recited in claim 15 wherein the source comprises a back source configured to apply radiation to the one side of the film and a front source configured to apply radiation to an opposing side of

Art Unit: 2626

the film (Simons teaches that when the film is not inverted for reflection scanning, two reflection scanners are placed on the two sides of the film implying that there is a radiation source for each reflection scanner located on each side (column 17, lines 65-67)).

13. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5350664 to Simons in view of U.S. Patent No. 5436688 to Tanaka further in view of U.S. Patent No. 5574577 to Wally, Jr. et al.

Regarding claim 18, Simons in view of Tanaka teach all the limitations of claim 17. However Simons in view of Tanaka does not disclose the system as recited in claim 17, wherein the image processor is configured to align the digital data for each frame.

Wally, Jr. et al disclose a system wherein the image processor is configured to align the digital data for each frame (column 10, lines 55-67; column 12, lines 35-40, lines 13-17).

Simons, Tanaka, and Wally, Jr. et al are combinable because they are in the same problem area of film image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the digital alignment processor of Wally, Jr. et al with the film imaging system of Simons in view of Tanaka to implement an accurate imaging system.

The motivation to combine the reference is clear because alignment is necessary for registering multiple images together as taught by Wally, Jr. et al (column 12, lines 35-40).

Other Prior Art Cited

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6268936 to Truc et al discloses a film scanner.

U.S. Patent No. 5644356 to Swinson et al disclose a film scanner with high resolution.

U.S. Patent No. 5790277 to Edgar disclose a film scanner with duplex scanning capability.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (703) 306-3441. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (703) 305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2626

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

Patent Examiner

Beniyam Menberu

BM
01/05/2005

KA Williams

**KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER**